



MARINE CORPS SYSTEMS COMMAND
UNITED STATES MARINE CORPS

Transportation & Distribution Information Systems (TDIS)

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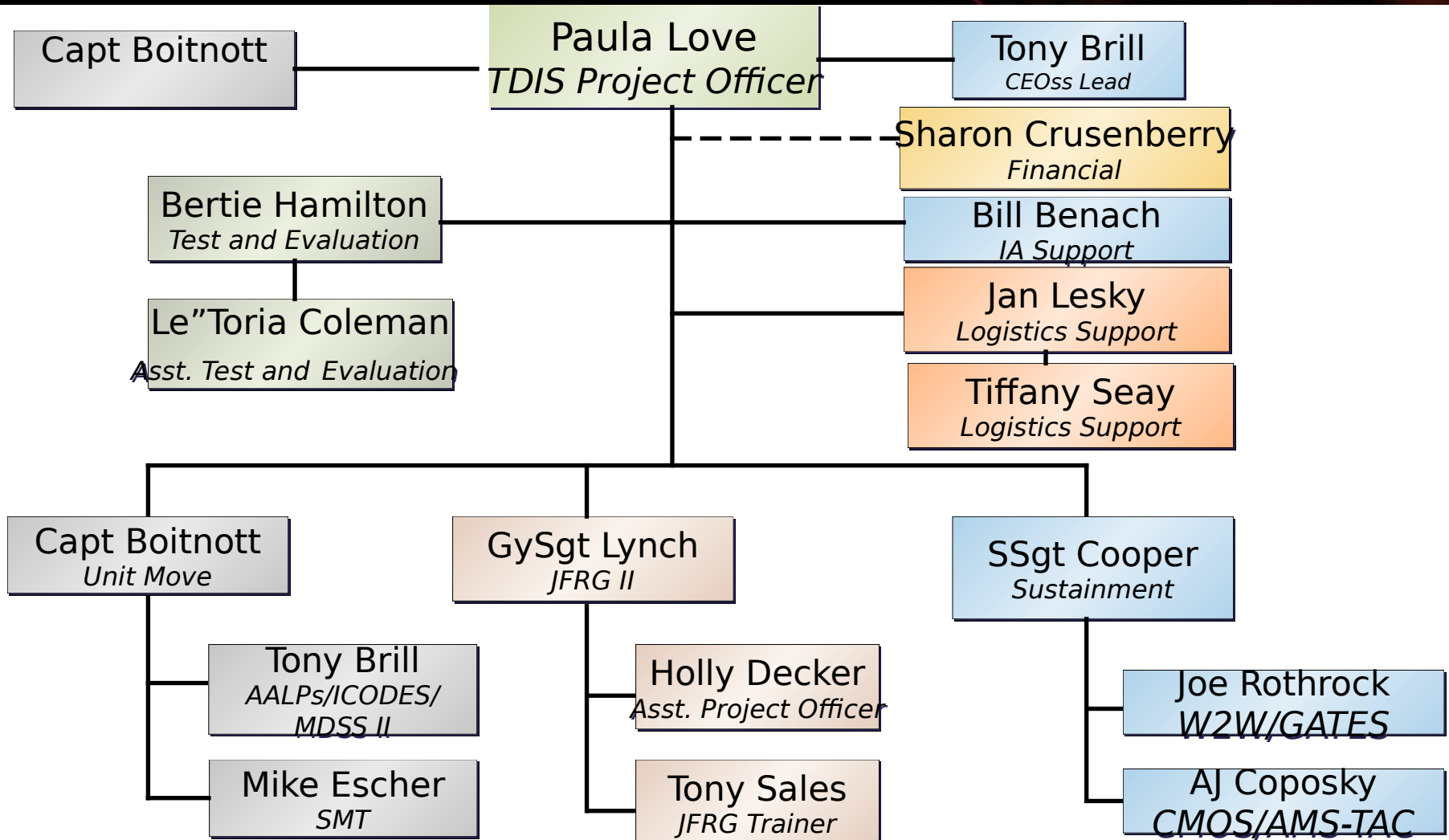
Mission

To develop, provide, and maintain integrated logistics systems that improve transportation, FDP&E, AIT, and distribution services to the Warfighter in a deployed and garrison environment, enhancing their war fighting capability.



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TDIS Applications

- ◆ **AMS-TAC - Automated Manifest System - Tactical**
- ◆ **CMOS - Cargo Movement Operations System**
- ◆ **W2W - Warehouse to War fighter**
- ◆ **Future Plans include integration of life cycle management responsibilities for:**
 - **TOPS, AGTR, GATES, Power track, GFM**
 - ◆ **Manpower and Funding Resources**

Independent AIT/RFID Program Office (2005)



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AMS-TAC



◆ AMS-TAC Current

- Fielded version 3.0.7
- Testing complete for version 3.1
 - ◆ SSAA/IA documentation in process
 - ◆ NMCI Certification pending resolution of challenges
 - Peer-to Peer or mapping is in violation of NMCI business rules
 - Using Unit budget for appropriate NMCI Seat assignment
 - Establishing seat assignments



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AMS-TAC



◆ AMS-TAC Future

- Alternatives
 - ◆ Web-enable in concert with client version (Navy/USMC venture)
 - ◆ Integration with W2W
 - ◆ Integration into CMOS
 - Capabilities Based Assessment Team (CBAT) vision
 - More Users MLG
 - Functionality tradeoffs btw Services



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CMOS

- ◆ 7.0 in IA certification process
- ◆ 7.1 certification will start upon completion of 7.0 upgrade
- ◆ Everyone should be writing RFID Tags out of CMOS for Iraq Shipments (IAW Policy)
- ◆ Working keyboard readers vice scanners
- ◆ Working 2d Barcode for 1348's
- ◆ Training 5-9 Jun, ANG, Harrisburg, PA.
 - Aug class unfunded
 - AIT Lab setup possible for mid term solution
- ◆ SPI Refresh, 55 Desk 18 Laptops
- ◆ Web-enable, USTC CBAT initiative
- ◆ D-CMOS
 - ✓ Any issues ?



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Bridge Technology

LTMITV-W2W

Last Tactical Mile In-Transit Visibility

Warehouse to



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W2W Background

◆ I MEF creation

- Late Summer 2003 - SYTEX (Prime Vendor/Systems integrator)
- Deployed to Iraq

◆ II MEF transitioned deployment and refined W2W material solution and business process

◆ MARCORSYSCOM assumed program management responsibilities in Aug 05



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W2W



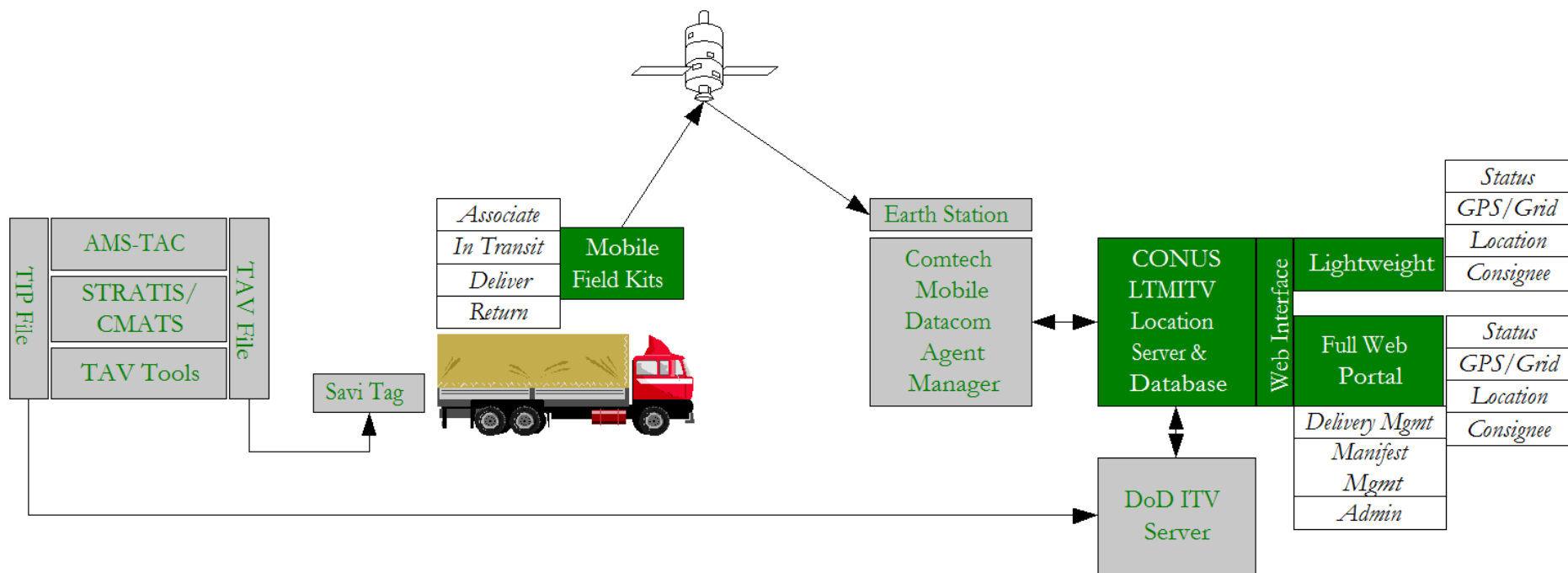
- ◆ Last-Mile' visibility of supplies forward
- ◆ Non-nodal location updates.
 - Not dependent on nodal interrogators
- ◆ Electronic capture of consignee data at delivery point
- ◆ Automated generation of AS1/AS2 transactions



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W2W





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W2W Principle Items

◆ Server

◆ Mobile Kit

- ◆ Computer (Laptop/tablet)
- ◆ Transceiver
- ◆ Cable Assembly
- ◆ Power Supply

No difference btw Base Unit Kit or Mobile Kit just how it is employed



W2W Functional

Overview

◆ Server

- Receives and parses TIP files or content level detail from ITV
- From Base Unit Kit or Mobile Kit
 - ◆ Receives location (GPS) updates
 - ◆ Receives camp drop, RUC pickup and RUC delivery data
- Provides rich query and lightweight query alternatives via web interface
- Sends AS1 and AS2 80 card column courier file updates to USMC server for consumption based on in-garrison and theatre business rules



W2W Functional

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Overview

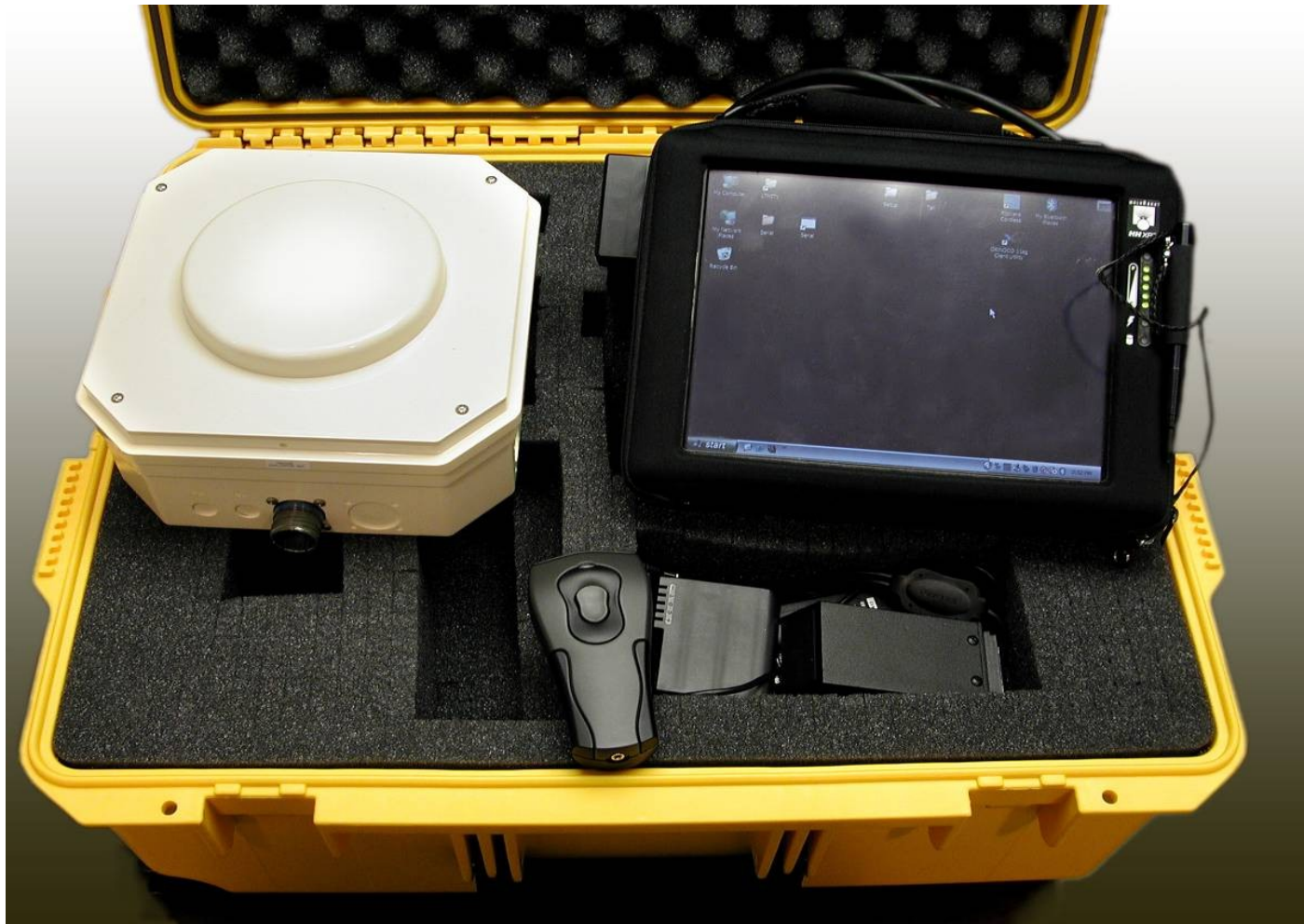
◆ Base Unit Kit or Mobile Unit Kit

- Computer with Visibility Tracking Program (VTP)
- At delivery preparation – input of PDC, AAC and Tag ID
- At Camp Drop, RUC Pickups and End RUC Deliveries
 - ◆ Mobile Unit Kit – GPS updates and input of Tag ID and Consignee data
 - ◆ Base Unit Kit – input of Tag ID and Consignee data



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- ◆ Visibility Tracking Program
- ◆ Software application that runs on Tablet PC, which is part of a Field Kit
 - A few touch screen, most pen-based
 - Pen-based provide brighter screens
 - Includes graphic keyboard pop-up to allow entry of name/textual data via keyboard
 - Pen-based also provides additional means of handwriting recognition for input



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W2W



 VTP Main Menu



Lost Tactical Mile In Transit Visibility

Last Tactical Mile In Transit Visibility

Warehouse to Warfighter Version 1.0.1858.24279

Status

FIELD KIT #: 99999	LOCAL TIME: 1603	ZULU TIME: 2103
GRID: [NO FIX]	LATITUDE: [NO FIX]	LONGITUDE: [NO FIX]

System Check

Start Route

RUC Delivery

Camp Drop

End Route

Help

Transceiver Load

< Tests for VTP Readiness

< START a New Delivery Session (Prepare for your Route)

< DELIVER Gear to Consignee RUC

< DROP Gear at Intermediate Location (NOT to Consignee)

< END the Current Delivery Session

< Documentation and Help for the VTP



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W2W

- ◆ Correlates delivery manifest data and Tag IDs with a field kit that is placed within a delivery/convoy vehicle
- ◆ Provides a means to query the location and current status of materiel pushed from SMU/TMO forward via a web enabled interface
- ◆ Can be configured 2 ways:
 - Mobile unit on each supply convoy from warehouse
 - ◆ Direct RUC delivery - AS2 (D6T)
 - ◆ Intermediate camp drop - AS1
 - Fixed system at each camp
 - ◆ Capture subsequent RUC pickup from camp - AS2 (D6T)



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W2W

- ◆ Relies on satellite transceiver and GPS to communicate data to Location Server
 - Designed to use minimal bandwidth
 - Same transceivers as MTS and BFT
 - Provides robust seamless satellite data communications to ensure data that is sent up is not 'lost in the ether'
 - All communications between Field Kit and Satellite are encrypted
- ◆ Does not depend on a localized server
- ◆ Laptop does not use mapping software- it is purely an input/filter for data up to the Location Server



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W2W



LAST TACTICAL MILE IN TRANSIT VISIBILITY

Warehouse to Warfighter

Log In

Username:

Password:

Login

- [I meant to go to the DoD ITV web site](#)
- [I am a Using Unit with low bandwidth but would like to query LTMITV](#)



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W2W



LTMITY - Query - Microsoft Internet Explorer provided by AT&T WorldNet Service

File Edit View Favorites Tools Help

DoD ITV Server
Lightweight LTMITY
Log Out

LAST TACTICAL MILE IN TRANSIT VISIBILITY

Warehouse to Warfighter

Query Manifest View Delivery Mgmt Admin

Search DOC NUMBER: NSN: TCN:
Manifest Data RUC: Tag ID: Last:

RUC TAG	TCN	Items	Status	Last Position	Last Updated
MMX200 000000	MMC10041710005XXX	13	Closed	38° 54' 36" N 77° 13' 12" W 18SUJ 07513 09132	2/3/2005 6:06:08 PM

Document Number	NSN	Nomenclature	UI	QTY	RIC
MMX20051690001	5999010321692	ACCESSORY MAINT KIT TELE	EA	00003	MC1
MMX20051690002	6625010906789	ADAPTER,TEST,POWER SUPPLY	EA	00004	MC1
MMX20051690003	5895012509557	CONVERTER,MODEM,SI	EA	00005	MC1
MMX20051690004					
MMX20051690005					
MMX20051690006					
MMX20051690007					
MMX20051690008					
MMX20051690009					
MMX20051690010					
MMX20051690011					
MMX20051690012					
MMX20051690013					

[MMX200 000001](#)
 [MMX200 000002](#)
 [MMX200 000003](#)
 [MMX200 000004](#)

TagHistory - Microsoft Internet Explorer provided by AT&T WorldNet Service

TAG: 000004

Log Date	Position	Status
2/3/2005 6:17:37 PM	38° 54' 36" N 77° 13' 12" W 18SUJ 07513 09132	Closed
2/3/2005 6:17:36 PM	38° 54' 36" N 77° 13' 12" W 18SUJ 07513 09132	Delivered
2/3/2005 6:12:26 PM	38° 54' 36" N 77° 13' 12" W 18SUJ 07513 09132	Camp DropOff
2/3/2005 6:09:56 PM		In Transit
		Waiting for Details
		Pending

start C. 2 P. R. C. My Documents 1:54 PM Thursday



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W2W



home - Microsoft Internet Explorer provided by AT&T WorldNet Service

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Media

Address <http://tmtv1.sytexinc.com/LTMITVLW/> Go

Search Manifest DOC NUMBER: M2832143347281 NSN:
Tag ID: RUC:
TCN:

home - Microsoft Internet Explorer provided by AT&T WorldNet Service

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Media

Address <http://laddemo1.sytexinc.com/tmtv1w/home.aspx> Go

Search Manifest DOC NUMBER: M2832143347281 NSN:
Tag ID: RUC:
TCN:

Search Reset

RUC TAG	TCN	Items	Status	Last Position	Last Updated
M28321 730764	M283214336T730764	17	Closed	33.35 N 117.41 W 61851 90164	12/2/2004 5:40:12 PM
Document Number	NSN	Nomenclature	UI	QTY	RIC
M2832143347281	2540014957611	SEAL,UPPER DOOR HIN	EA	00001	MC1
M2832143347291	2930014956890	FAN OPERATOR	EA	00001	MC1
M2832143356334	5330009668657	PACKING ASSORTMENT,	EA	00001	MC1
M2832143356336	5975005709598	STRAP,TIEDOWN,ELECT	HD	00001	MC1
M2832143356338	5970004194291	TAPE,INSULATION,ELE	RO	00001	MC1
M2832143356339	5940005250907	TERMINAL KIT	KT	00001	MC1
M2832143356354	6150010270125	CABLE ASSEMBLY,SPEC	EA	00001	MC1
M2832143356355	4820013988314	VALVE,CHECK	EA	00002	MC1
M2832143356390	6240001433070	LAMP,INCANDESCENT	EA	00004	MC1
M2832143356391	6240001536494	LAMP,INCANDESCENT	EA	00004	MC1
M2832143357323	5340012658911	HANDLE,DOOR	EA	00001	MC1
M2832143357329	5340011553798	LEVER,MANUAL CONTRO	EA	00001	MC1
M2832143357330	5310009752075	NUT,PLAIN,HEXAGON	HD	00001	MC1
M2832143357331	5340009850823	CLEVIS,ROD END	EA	00001	MC1
M2832143357332	5315008423044	PIN,COTTER	HD	00001	MC1

Lightweight Query



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Quick User Guides

Last Tactical Mile In Transit Visibility
Manual version 1.0 (Rev. 1.0)
ltmivsupport@sytexinc.com
Quick User Guide

PREPARATION

1. Gear Up

2. Power Up

DELIVERY

3. Capture

4. Head Out

5. OR

6. Reconcile

FIXED KIT

7. RUC Pickup from Camp

A. Check to see if you have all that you need from a field kit (see other side).

Tablet Barcode Cables Transceiver Inverter OR Portable Power

B. Load field kit on the vehicle, including transceiver placement and power connections. Power on the tablet PC if not done so already. Click the barcode scanner to 'awaken' it.

C. At the desktop, launch **Flareware to connect the barcode reader, and launch the **LTMITV Client Application** if not up already.**

D. Run the **System Check on the VTP (LTMITV Client Application). (See **Other side**)**

E. If the TIP file for any of these was generated by AMS-TAC, ensure the TIP file has been sent to the LTMITV server.

F. At the tablet PC, in the LTMITV client application, click on **Start Route. Depart vehicle.**

G. Scan the Swi tag license plate barcode **on the top left for each tagged pallet/container to be delivered. A beep indicates a successful scan. (See **Other side**)**

H. Press **Done when you have finished scanning tag IDs and verification of tag list/count.**

I. Enter rank, name, and convoy tasker ID for this delivery session and press **Accept.**

J. Check the screen to ensure all data is correct, then press **START, and **OK**.**

K. **Transceiver Load status bar shows the data load to be sent to LTMITV.**

L. VTP running from the tablet PC will send GPS/grid updates to LTMITV at predefined intervals while en route. Position data is at the top of the VTP screen. GRID: 89134 27384 LATITUDE: 87.88 N LONGITUDE: 176.00 W (See **Other side)**

When delivering to a RUC consignee:

M. Click **RUC Delivery. Scan only the Tag ID barcodes of all items to be delivered.**

N. When you have returned to the VTP and the IDs have uploaded, click **Done.**

O. Enter consignee data from the signed manifest. Press **Accept and then **OK** when completed. Continue to next delivery/drop. If this was the last stop, go to #6 below.**

When dropping at an intermediate location:

L. Click **Camp Drop. Scan only the Tag ID barcodes of all tagged items just delivered.**

M. When you have returned to the VTP and the IDs have uploaded, click **Done.**

N. Enter the camp name and click **Accept. Continue to next delivery/drop. If this was the last stop, go to #6 below.**

O. After the last delivery/drop, no other action on the tablet PC is required until you have returned to origin. This allows tracking of the delivery asset back to its origin.

P. Upon return to origin, click **Reconcile. VTP will indicate if all tags have been accounted for. If so, click **Done**. If not, you will be asked to reconcile outstanding tags.**

Q. For each tag you must indicate delivered, camp dropped or not delivered/return to origin. Indicate consignee for delivered tags, and location for camp dropped tags.

R. Once you are finished reconciling tags, click **OK. Once **Transceiver Load** bar empties, another delivery route can be run, or the application can be closed and tablet PC shut down.**

This step only applies to Field Kits that are configured as **FIXED and situated at intermediate delivery points (not for delivery vehicles). For a RUC pickup:**

A. Press **RUC Pickup. Enter consignee information and press **Accept**.**

B. Scan only the Tag ID barcodes of all items just picked up.

C. Click **Done. Click **Yes**, then **OK**.**

Quick User Guide
ltmivsupport@sytexinc.com
Quick Hints

Tablet PC Barcode Scanner

Transceiver

Cables & Inverter

Transceiver cable: 24 VDC Power Supply, 48 Watts (Pre-wired)

Power Inverter: 12 VDC OR 24 VDC

Transceiver: AWAITING TEST

Barcode Reader: AWAITING TEST

User Scan

ALL OK

Barcode Reader: Active

Transceiver: Active

scanned in properly. From START ROUTE, Delivery or Camp Drop screen, the tag IDs.

ITV Tag Number

Scanned Tags (2)

000002

000001

000000

Press Scan to clear the current ITV Tag.

Tag ID's list has already been uploaded on the VTP to the ITV Tag Number Field if you need to scan more barcodes.

on keypad at the bottom left of the tablet desktop to enter or correct data.

route. From the main screen:

GRID: 89134 27384 LATITUDE: 87.88 N LONGITUDE: 176.00 W

GRID: 89134 27384 LATITUDE: 87.88 N LONGITUDE: 176.00 W

Transceiver Load

Transceiver Load

If VTP or the LTMITV Client Application, closes after being launched, or during a delivery session, check the power connections to the tablet PC and the USB data connection to the tablet PC.

LTMITV-W2W Web Site User Guide
Version 2.0
For support please contact ltmivsupport@sytexinc.com

This guide is intended for Using Units/Consignees who wish to query for requisitioned gear which is en route along the 'last tactical mile'. Gear that has been loaded up for delivery from a USMC garrison or tactical distribution point which has an active RFID tag associated can be queried here. Position updates are by time interval instead of node-based, and consignee or intermediate drop location are provided down to the Document Number level.

Note: If your gear cannot be found, the DoD ITV server can be queried if it is further upstream in the distribution channel.

Main URL: <http://ltmiv.sytexinc.com/ltmiv>

Username: _____ **Password:** _____

Site requires a username and password. Please email LTMITV support at the above address to request a username and password. Please include your name, rank, outfit and last 4.

If you have a username and password, enter these and click **Login.**

Once logged in, you will be directed to the Query Page (below).

Clicking on the **DoD ITV Server or **Lightweight LTMITV** buttons at the top left will log you out of the session and send you to the respective right within the same browser window.**

These buttons are primarily for supply and distribution activities who use the system for managing delivery sessions.

In this example, Query by RUC is implemented. One active tag ID manifest record is returned for the time period of the last 24 hours.

"NOTE: Status of 'Waiting for Details' is also indicated if the RUC TAG column only has a TAG ID, no RUC."

Clicking the **RUC/TAG Link will open a separate window with that Tag's Location and Status History within the system.**

Clicking the **Expand Button (Down Arrow) will return a list of Document Numbers contained within the manifest.**

Clicking on a **Document Number will return a detailed view of that single document, including status, as well as intermediate location or consignee data, where applicable.**

Clicking on **BACK will return the display to the prior screen.**

Query by RUC or NSN will return all Tag IDs. Manifests associated with the queried element.

Query by Tag ID, TCN or Document Number will return the single tag manifest associated with that data element.

If by Document Number, the record will be highlighted among all items on the associated manifest.

Lightweight URL: <http://ltmiv.sytexinc.com/ltmivlw>

From this page one can query by Document Number, RUC, NSN, Tag ID or TCN.

Shows status, location, date/time of most recent status (GMT) and consignee, if applicable.

Web Site/Query



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Next Steps

- ◆ Continue to assess operational use
- ◆ Continue in-theatre fielding and assessment
- ◆ Field Kits to all 3 MEF's for Training Base
- ◆ Determine additional requirements
- ◆ Conduct Requirements Board for seamless distribution process (AMS/W2W ?)
- ◆ Future minor releases
- ◆ Passive RFID options
- ◆ Smaller footprint (Handheld)
- ◆ Converge with other SatCom providers
- ◆ MCEITS, IA Process



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What it all Means

- ◆ Visibility from Warehouse to Warfighter
- ◆ Robust COTS platform
- ◆ Simplified approach
 - Uses pre-positioned data
 - Economic use of bandwidth
- ◆ Not intended as another stovepipe
- ◆ Reusable platform to solve real problems right now...
- ◆ ...while recognizing that change is inevitable with:
 - Increased use and feedback
 - Technology trends and adoption
 - Standards, policy and directive evolution



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Questi

Transportation and Distribution
Information Systems
(TDIS)
Program Office

***Thank
You !***